

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) Receiver for receiving modulated coded signals and comprising a phase-shift-keying demodulator (4) for demodulating said signals and comprising a differential detector (10) for decoding said signals, ~~characterized in that~~wherein said differential detector (10) comprises a non-linear compensator (20) coupled to receive a decoder (19) output for compensating a decoder output signal.

2. (Currently amended) ~~Receiver~~The receiver according to claim 1, ~~characterized in that~~wherein said non-linear compensator (20) comprises a channel estimator (22) for estimating at least one coefficient of at least one term of said decoder output signal and a remover (21,23) for removing at least one term of said decoder output signal.

3. (Currently amended) ~~Receiver~~The receiver according to claim

2, ~~characterized in that~~wherein said receiver is designed for a Bluetooth environment.

4. (Currently amended) ~~Receiver~~The receiver according to claim 3, ~~characterized in that~~wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, with said remover ~~(21,23)~~ removing the H-term.

5. (Currently amended) ~~Receiver~~The receiver according to claim 4, ~~characterized in that~~wherein said remover ~~(21,23)~~ comprises a combiner ~~(21)~~ for receiving an H-coefficient from said channel estimator ~~(22)~~ for combining said decoder output signal with said H-term such that said H-term is removed.

6. (Currently amended) ~~Receiver~~The receiver according to claim 3, ~~characterized in that~~wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, with said remover ~~(21,23)~~ removing the Bb_{k-1} -term.

7. (Currently amended) ~~Receiver~~The receiver according to claim 6, ~~characterized in that~~wherein said remover ~~(21,23)~~ comprises a

combiner (23)—for receiving a product of a B-coefficient originating from said channel estimator (22)—and a b_{k-1} -signal originating from an output of said non-linear compensator (20)—and delayed by T_s for combining said decoder output signal with said Bb_{k-1} -term such that said Bb_{k-1} -term is removed.

8. (Currently amended) ~~Receiver~~ The receiver according to claim 7, ~~characterized in that~~ wherein said remover (21,23)—comprises a slicer (25)—located between said combiner (23)—and said output of said non-linear compensator (20)—for slicing the compensated decoder output signal.

9. (Currently amended) Non-linear compensator (20)—for use in a receiver for receiving modulated coded signals and comprising a phase-shift-keying demodulator (4)—for demodulating said signals and comprising a differential detector (10)—for decoding said signals, ~~characterized in that~~ wherein said differential detector (10)—comprises said non-linear compensator (20)—coupled to receive a decoder (19)—output for compensating a decoder output signal.

10. (Currently amended) Transceiver comprising a transmitter with

a differential coder ~~(30)~~ and a phase-shift-keying modulator ~~(7)~~ for transmitting modulated coded signals and comprising a receiver for receiving said modulated coded signals with a phase-shift-keying demodulator ~~(4)~~ for demodulating said signals and a differential detector ~~(10)~~ for decoding said signals, ~~characterized in that~~ wherein said differential detector ~~(10)~~ comprises a non-linear compensator ~~(20)~~ coupled to receive a decoder (19) output for compensating a decoder output signal.

11. (Currently amended) Method for receiving modulated coded signals and comprising the steps of demodulating said signals via phase-shift-keying demodulation and of decoding said signals, ~~characterized in that~~ wherein said step of decoding comprises ~~the a~~ substep of non-linearly compensating decoded signals.

12. (Currently amended) ~~Processor program product~~ Computer program stored on a computer readable medium that when executed by a processor configures the processor for receiving modulated coded signals, ~~and comprising the functions of demodulating said signals via phase-shift-keying demodulation, and of decoding said signals, characterized in that said function of~~ wherein said decoding

comprises ~~the~~ a subfunction of non-linearly compensating decoded signals.

13. (New) Receiver for receiving modulated coded signals and comprising a phase-shift-keying demodulator for demodulating said signals and comprising a differential detector for decoding said signals, wherein said differential detector comprises a non-linear compensator coupled to a decoder for compensating a decoder output signal, wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, with said remover removing the H-term.

14. (New) Receiver for receiving modulated coded signals and comprising a phase-shift-keying demodulator for demodulating said signals and comprising a differential detector for decoding said signals, wherein said differential detector comprises a non-linear compensator coupled to a decoder for compensating a decoder output signal, wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, with said remover removing the Bb_{k-1} -term.